

Amendments to the Claims:

Please cancel Claims 10, 20, 27 and 33 without prejudice.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An electronic system comprising:
a magnetic sensor for coupling to a battery string at a single point, wherein said magnetic sensor is connected between at least two batteries within said battery string, for sensing a signal thereof; and
a logic circuit coupled to said magnetic sensor and for automatically establishing threshold settings for detecting a battery failure of said battery string and, in response thereto, said circuit for automatically generating a message over a communication network wherein said message initiates generation of an electronic message (email) to a prescribed recipient and wherein said email indicates and describes said battery failure of said battery string indicating and describing the failure of said battery string and wherein said message initiates a call to said prescribed recipient at a remote location notifying said prescribed recipient of said battery failure of said battery string.

2. (currently amended) An electronic system as described in Claim 1 wherein said magnetic sensor senses current of said battery string and further comprising a signal conditioning circuit coupled between said magnetic sensor and said logic circuit, said signal conditioning circuit for converting a current signal output from said sensor to a voltage signal supplied to said logic circuit.

3. (original) An electronic system as described in Claim 2 wherein said current of said battery string is a ripple current through said battery string at said single point.

4. (currently amended) An electronic system as described in Claim 1 wherein said magnetic sensor is a Hall effect clamp-on sensor electro-magnetically coupled to said battery string.

5. (currently amended) An electronic system as described in Claim 4 wherein said magnetic sensor senses ripple current through said battery string.

6. (currently amended) An electronic system as described in Claim 5 wherein said logic circuit detects said battery failure in response to said magnetic sensor detecting a ripple current through said battery string dropping below a prescribed threshold.

7. (currently amended) An electronic system as described in Claim 1 wherein said logic circuit detects said battery failure in response to said magnetic sensor detecting an electrical signal of said battery string dropping below a prescribed threshold.

8. (original) An electronic system as described in Claim 1 wherein said battery string is part of an un-interruptible power supply (UPS) circuit and wherein further said logic circuit is also for detecting failure in a rectifier of said UPS circuit.

9. (currently amended) An electronic system as described in Claim 8 wherein said logic circuit detects said rectifier failure in response to said magnetic sensor detecting an electrical signal of said battery string raising above a prescribed threshold.

10. (canceled)

11. (currently amended) A method for monitoring a battery system comprising:
using a magnetic sensor coupled at a single point of said battery system, wherein said magnetic sensor is connected between at least two batteries within said battery system, to sense a signal thereof;

automatically establishing threshold setting for detecting a battery failure of said battery system;

determining that a threshold setting value indicating a failure of said battery system has been exceeded according to said signal; and

automatically generating a message over a communication network indicating and describing the failure of said battery string system in response to said determining wherein said message initiates generation of an electronic message (email) to a prescribed recipient and wherein said email indicates and describes said battery failure of said battery system and wherein said message initiates a call to said prescribed recipient at a remote location notifying said prescribed recipient of said battery failure of said battery system.

12. (currently amended) The method as recited in Claim 11 wherein said magnetic sensor senses a ripple current of said battery system and further comprising:

converting said ripple current to a voltage signal for use in said determining.

13. (currently amended) The method as recited in Claim 11 wherein said magnetic sensor comprises a Hall effect sensor electro-magnetically coupled with said battery system and further comprising:

using said Hall effect magnetic sensor to sense a ripple current of said battery system.

14. (original) The method as recited in Claim 13 wherein said determining determines that said ripple current has dropped below a prescribed threshold.

15. (original) The method as recited in Claim 11 wherein said battery system is part of an un-interruptible power supply (UPS) circuit and further comprising:

detecting rectifier failure in said UPS circuit, wherein said logic circuit determines that said signal has exceeded a prescribed threshold.

16. (currently amended) A battery alarm notification system comprising:
a battery string comprising a plurality of batteries coupled in series;
a magnetic sensor coupled at a single point of said battery string, wherein said magnetic sensor is connected between at least two batteries within said battery string, for sensing a ripple current thereof; and
a logic circuit coupled with said magnetic sensor for automatically establishing threshold settings for detecting a battery failure and for determining that said ripple current has dropped below a prescribed threshold and for automatically generating a message over a communication network indicating

and describing the failure of said battery string in response to said determining wherein said message initiates generation of an electronic message (email) to a prescribed recipient and wherein said email indicates and describes said battery failure of said battery string and wherein said message initiates a call to said prescribed recipient at a remote location notifying said prescribed recipient of said battery failure of said battery string.

17. (currently amended) The battery alarm notification system of Claim 16, wherein said magnetic sensor is a Hall effect sensor and further is a clamp-on sensor which is electro-magnetically coupled with said battery string.

18. (original) The battery alarm notification system of Claim 16 wherein said battery string is part of an un-interruptible power system (USP) circuit comprising a rectifier circuit and wherein said logic circuit is further for automatically generating a message in response to detecting a failure of said rectifier circuit of said UPS system.

19. (original) The battery alarm notification system of Claim 18 wherein said logic circuit determines that said ripple current has raised above a prescribed threshold.

20. (canceled)

21. (original) The battery alarm notification system of Claim 16 further comprising:

a signal converter for converting said ripple current to a voltage signal.

22. (currently amended) A method for monitoring a battery system comprising:

automatically establishing threshold settings for detecting a battery failure;
detecting a battery failure or one or more batteries of a battery string by
measuring a variation in ripple current therethrough at a single point of said
battery string, wherein said measurement is performed between at least two
batteries within said battery string; and

automatically generating a message for reporting said battery failure
detection via a communication network indicating and describing the failure of
said battery string wherein said message initiates generation of an electronic
message (email) to a prescribed recipient and wherein said email indicates and
describes said battery failure of said battery string and wherein said message
initiates a call to said prescribed recipient at a remote location notifying said
prescribed recipient of said battery failure of said battery string.

23. (original) The method as recited in Claim 22 wherein said measuring is performed using a electro-magnetically coupled sensor at a single point of said battery string.

24. (original) The method as recited in Claim 23 wherein said sensor comprises a Hall effect sensor.

25. (original) The method as recited in Claim 22 wherein said detecting comprises determining that said ripple current has dropped below a prescribed threshold.

26. (original) The method as recited in Claim 22 wherein said battery system is part of an un-interruptible power system (UPS) circuit comprising a rectifier circuit and further comprising:

determining that said ripple current has exceeded a prescribed threshold.

27. (canceled)

28. (currently amended) A method for monitoring a battery system comprising:

sensing at a single point of said battery system a signal thereof, wherein
said single point is connected between at least two batteries within said battery
system;

automatically determining a normal operating range of said signal over a period of time;

recording in a memory a threshold value indicative of said normal operating range; and

determining that said signal exceeds said threshold value and automatically generating a failure message over a communication network indicating and describing the failure of said battery string in response thereto and wherein said message initiates generation of an electronic message (email) to a prescribed recipient and wherein said email indicates and describes said battery failure of said battery system and wherein said message initiates a call to said prescribed recipient at a remote location notifying said prescribed recipient of said battery failure of said battery system.

29. (original) The method as recited in Claim 28 wherein said signal comprises a ripple current and wherein said sensing uses an electro-magnetically coupled sensor to sense said ripple current.

30. (original) The method as recited in Claim 29 wherein said sensor comprises a Hall effect sensor.

31. (original) The method as recited in Claim 29 wherein said Hall effect sensor determines that said ripple current has dropped below said threshold value.

32. (original) The method as recited in Claim 29 wherein said battery system is part of an un-interruptible power supply (UPS) circuit comprising a rectifier circuit and further comprising:

determining that said ripple current has exceeded said threshold value.

33. (canceled)